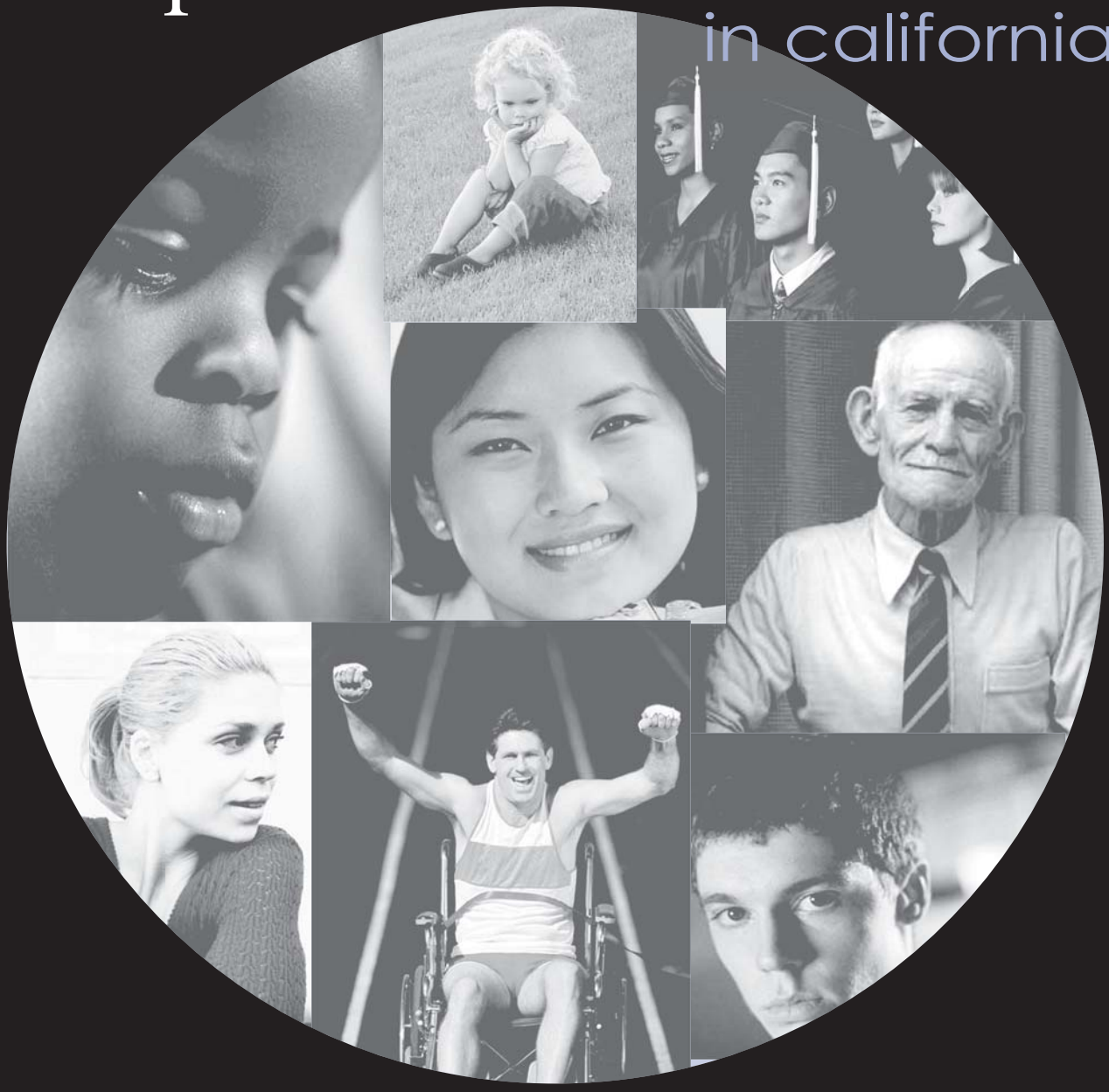
# racial & ethnic Disparities in Healthcare in california



## California Fact Book

November 2003

"Equitable Healthcare Accessibility for California"

Office of Statewide Health Planning & Development

# racial & ethnic Disparities in Healthcare in california

## California Fact Book

Office of Statewide Health Planning and Development

November 2003

**Gray Davis**
Governor, State of California

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California Health & Human Services Agency

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"Equitable Healthcare Accessibility for California"


Office of Statewide Health Planning & Development

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## PREFACE

November 2003

Disparities in health status, health services utilization, and health outcomes among various ethnic and racial groups have long existed in the United States. Recently, such disparities have assumed increased significance in shaping national and state health policies. The California Office of Statewide Health Planning and Development (OSHPD) has prepared this report entitled, "Racial and Ethnic Disparities in Healthcare in California," in an effort to contribute to the ongoing dialogue on this topic. The report does so with a specific focus on the notably diverse population of the state of California.

The report features three sections presenting common and well-accepted measurements for assessing racial and ethnic healthcare disparities using data collected by OSHPD. The first section describes Preventable Hospital Admission rates for a variety of conditions ranging from bacterial pneumonia to hypertension. A subset of the conditions also includes rates that are adjusted for their estimated prevalence within the different population groups. The second section presents Mortality Following Hospitalization for three conditions: acute myocardial infarction, community-acquired pneumonia, and coronary artery bypass graft surgery. The third section portrays data on the Use of Invasive Cardiovascular Procedures among patients admitted with a diagnosis of either acute myocardial infarction or unstable angina.

OSHPD anticipates that these analyses will be an important contribution to our society's understanding of the prevalence and significance of racial and ethnic disparities in healthcare and health outcomes. It is also hoped that such analyses will provide important additional insight into how OSHPD data contribute to policy discussions and decisions on healthcare.

David M. Carlisle, M.D., Ph.D.
Director
Office of Statewide Health Planning and Development

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# SECTION 1: PREVENTABLE HOSPITAL ADMISSIONS

## DESCRIPTION:

Hospital admission rates are presented for ambulatory care sensitive conditions that evidence suggests could have been avoided, at least in part, through better outpatient care. Racial/ethnic groups that have high hospital admission rates may experience a lack of access to quality outpatient services. The utilization rates for the following 16 indicator measures are presented:

1) Bacterial Pneumonia Admission Rate
2) Dehydration Admission Rate
3) Pediatric Gastroenteritis Admission Rate
4) Urinary Tract Infection Admission Rate
5) Perforated Appendix Admission Rate
6) Low Birth Weight Rate
7) Angina without Procedure Admission Rate
8) Congestive Heart Failure Admission Rate
9) Hypertension Admission Rate
10) Adult Asthma Admission Rate
11) Pediatric Asthma Admission Rate
12) Chronic Obstructive Pulmonary Disease Admission Rate
13) Uncontrolled Diabetes Admission Rate
14) Diabetes Short-Term Complications Admission Rate
15) Diabetes Long-Term Complications Admission Rate
16) Rate of Lower-Extremity Amputation among Patients with Diabetes

These indicators are defined by the Federal Agency for Healthcare Research and Quality as “Prevention Quality Indicators” for measuring national healthcare quality (AHRQ, 2001).

A prevalence-adjusted hospital admission rate is also provided for some of the 16 indicators, including all diabetes-related admissions, pediatric and adult asthma admissions, and congestive heart failure admissions. The disease prevalence data are derived from the California Health Interview Survey, conducted by UCLA in 2001.

## LIMITATIONS:

Data are derived from hospital administrative discharge data, whose coding is not regularly audited by medical chart reviews and may be subject to inconsistent reporting of patient conditions.

The differences in racial/ethnic rates in the presented measures should serve as a screening tool for potential healthcare problems in the community rather than as definitive measures of quality problems.

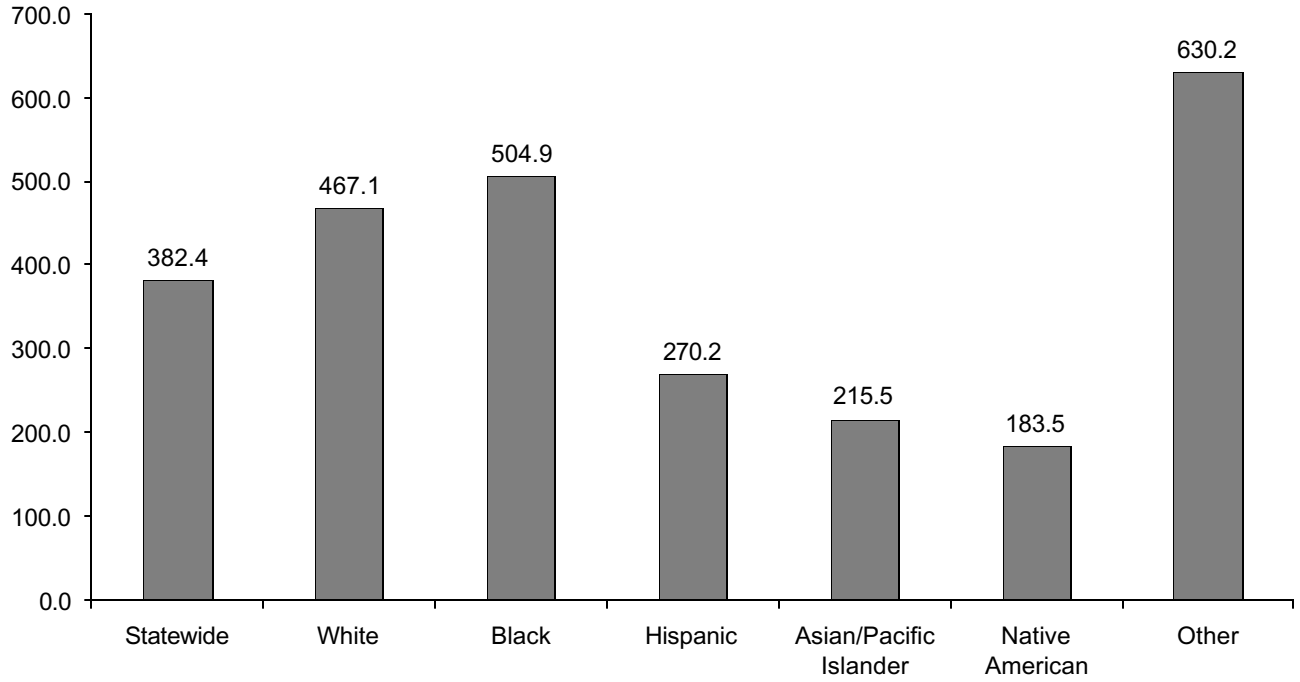
**SOURCES:**

California Office of Statewide Health Planning and Development, Patient Discharge Data, 2001.

U.S. Bureau of the Census, State characteristics population estimates file for Internet display, 2003.

UCLA, California Health Interview Survey, 2001.

**Hospital Admission Rate for Bacterial Pneumonia by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

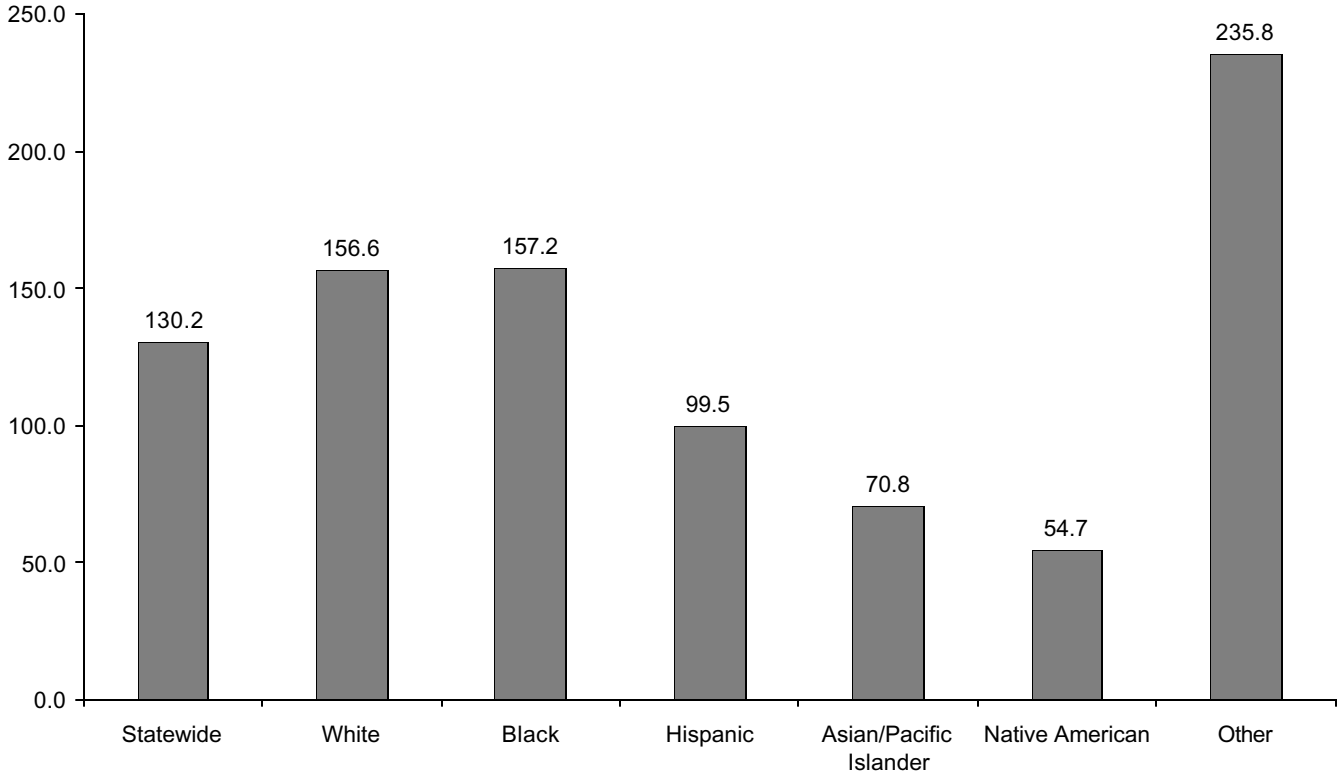
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal diagnosis of bacterial pneumonia but excludes:

- patients with a diagnosis of sickle cell anemia or HB-S diseases
- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population by race/ethnicity.

**Hospital Admission Rate for Dehydration by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

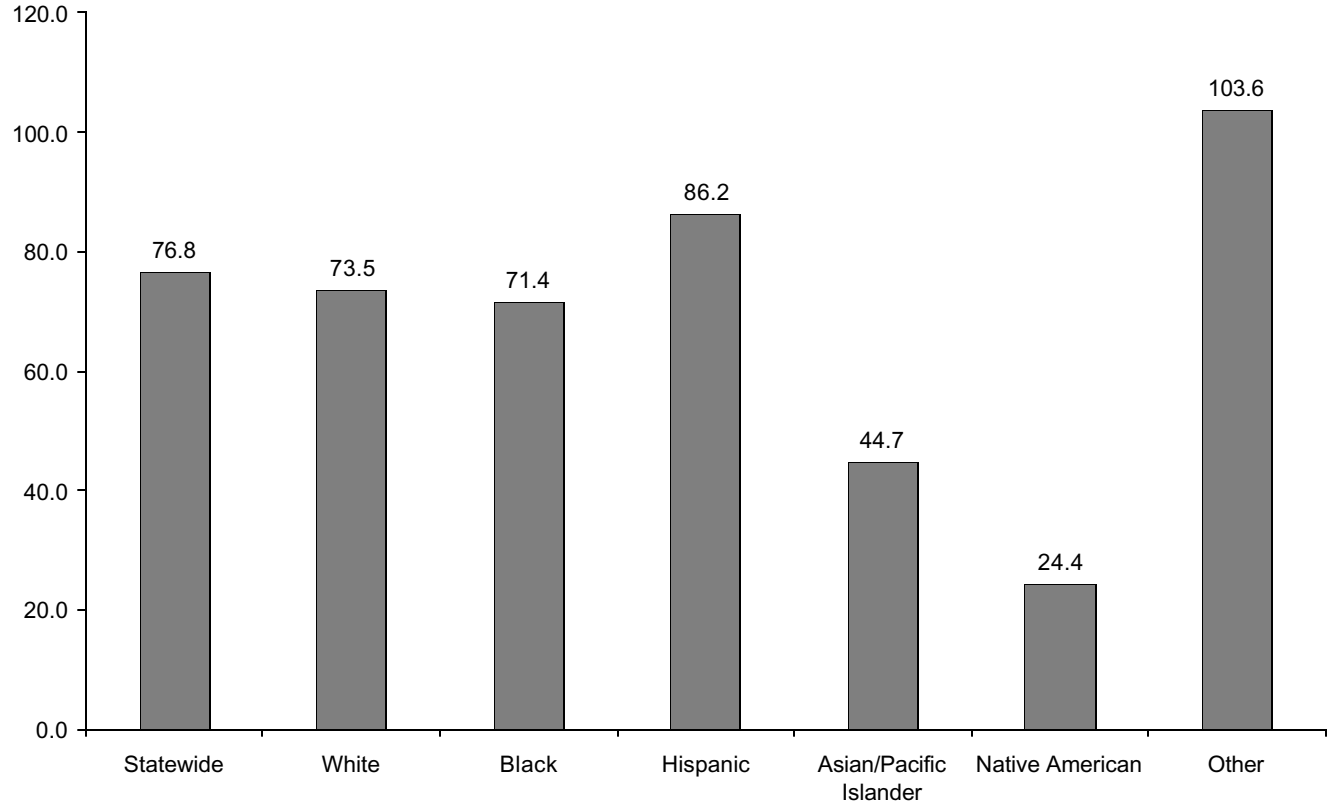
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal diagnosis of hypovolemia, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population by race/ethnicity.

**Hospital Admission Rate for Pediatric Gastroenteritis by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

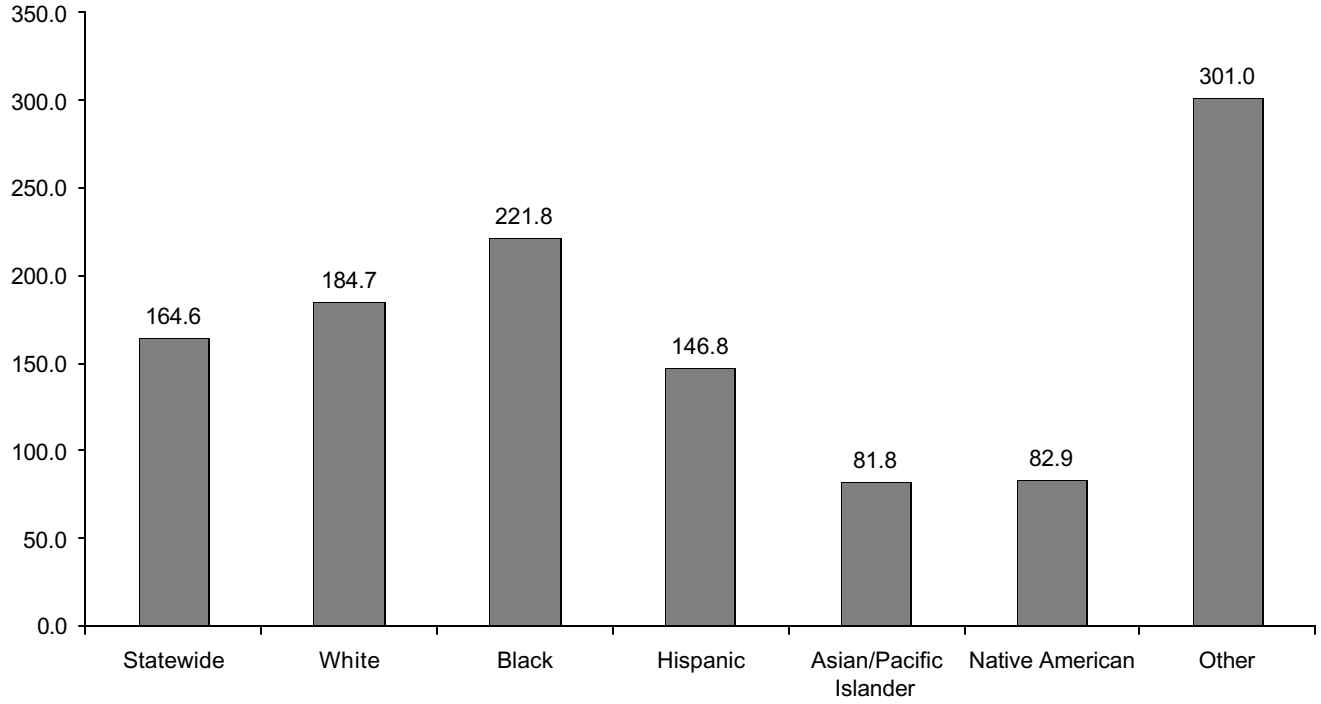
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal diagnosis of gastroenteritis, all non-maternal/non-neonatal under age 18, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population under age 18 by race/ethnicity.

**Hospital Admission Rate for Urinary Tract Infection by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into "Hispanic" category. Native American category also includes Eskimo and Aleut.

---

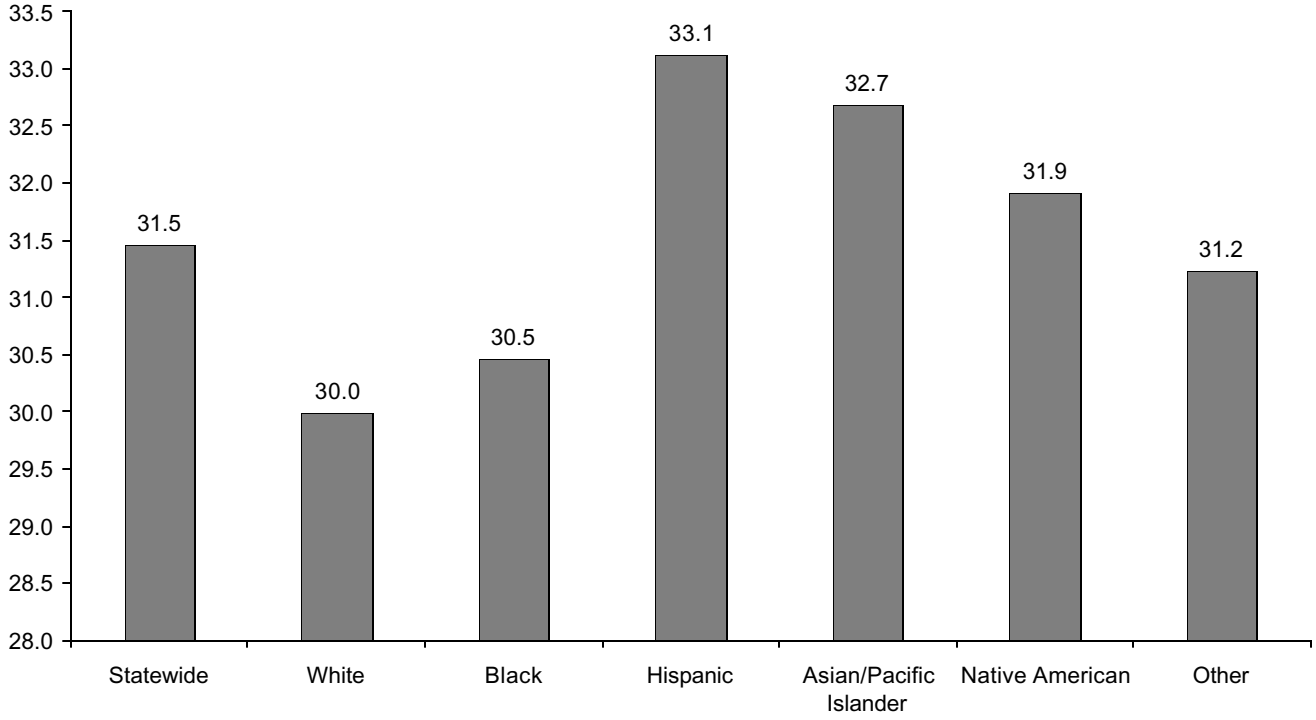
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal diagnosis of urinary tract infection, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population by race/ethnicity.

**Hospital Admission Rate for Perforated Appendix by Race/Ethnicity in California, 2001 (per 100 Patients with Appendicitis)**




Note: All persons indicating hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

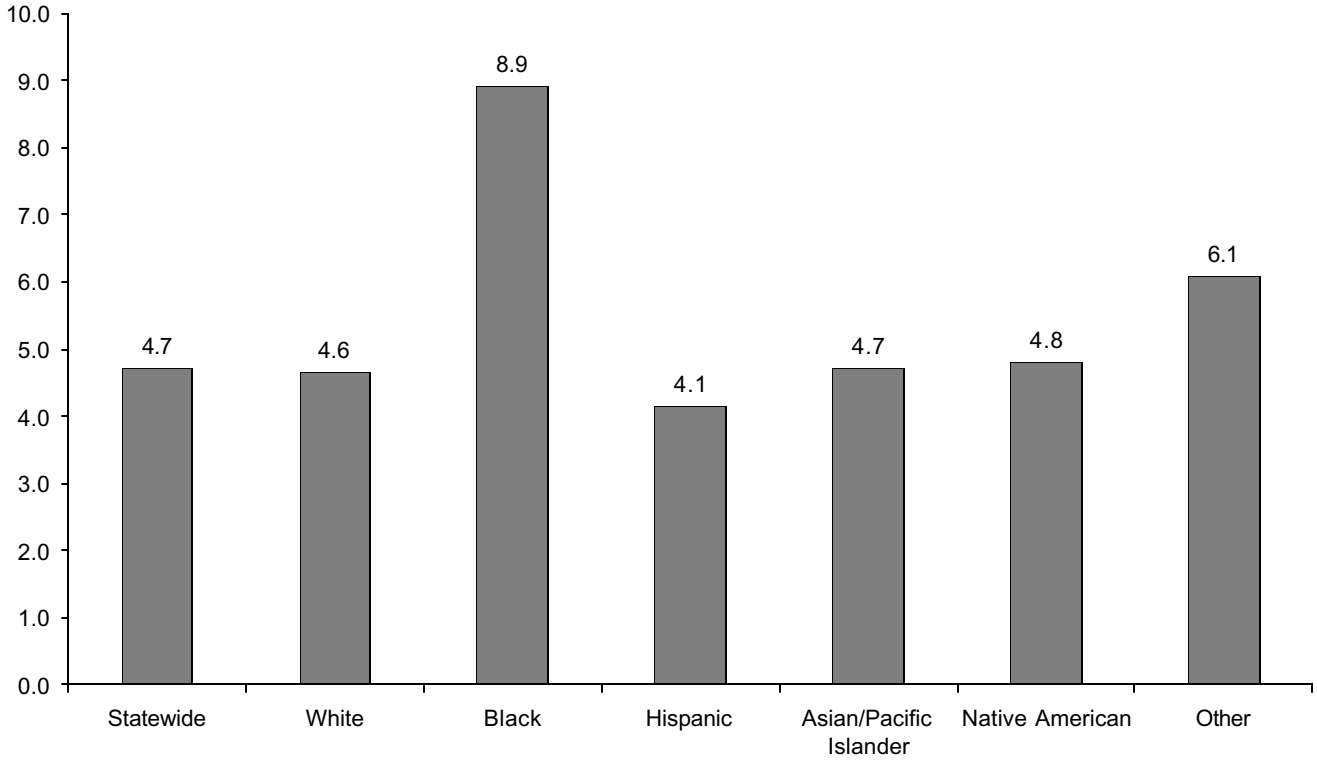
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal or secondary diagnosis of perforation or abscesses of appendix, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is number of discharges with diagnosis of appendicitis by race/ethnicity.

**Low Birth Weight Rate by Race/Ethnicity in California, 2001 (per 100 Births)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

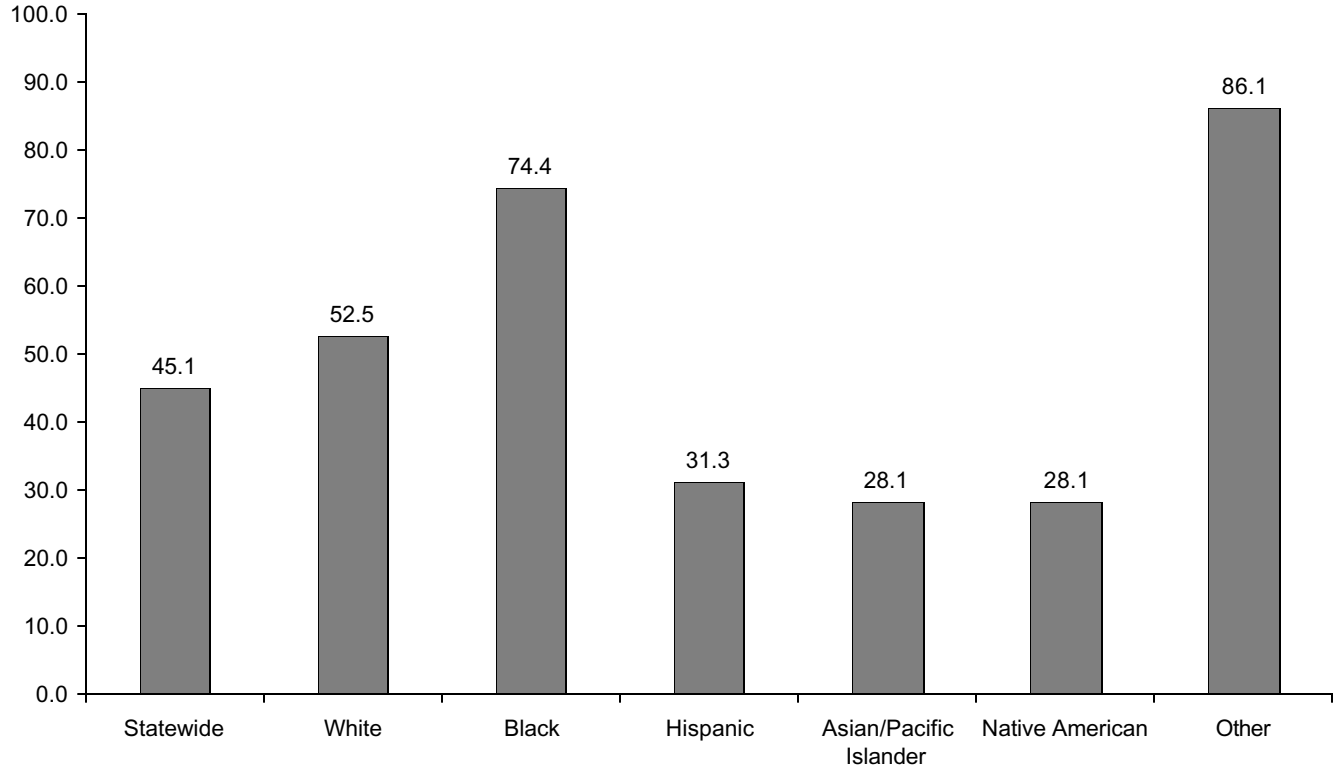
---

**Definition:**

The numerator consists of number of births by race/ethnicity, with diagnosis indicating weight of less than 2500 grams but excludes those being transferred from other hospitals.

The denominator is all births by race/ethnicity.

**Hospital Admission Rate for Angina without Procedure by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

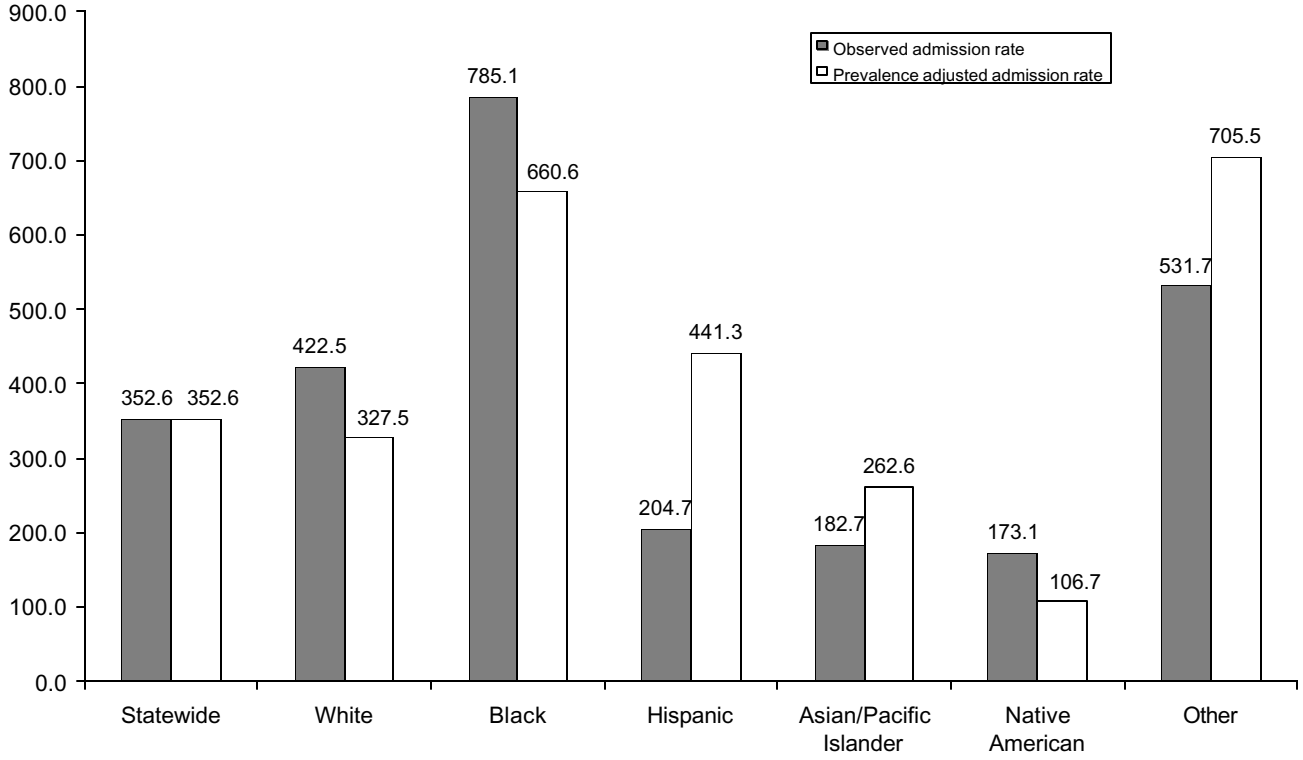
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal diagnosis of angina, all non-maternal/non-neonatal age 18 and older, but excludes:

- patients with a surgical procedure
- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission Rate for Congestive Heart Failure by Race/Ethnicity in California, 2001 (per 100,000 popoulation)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for congestive heart failure.

---

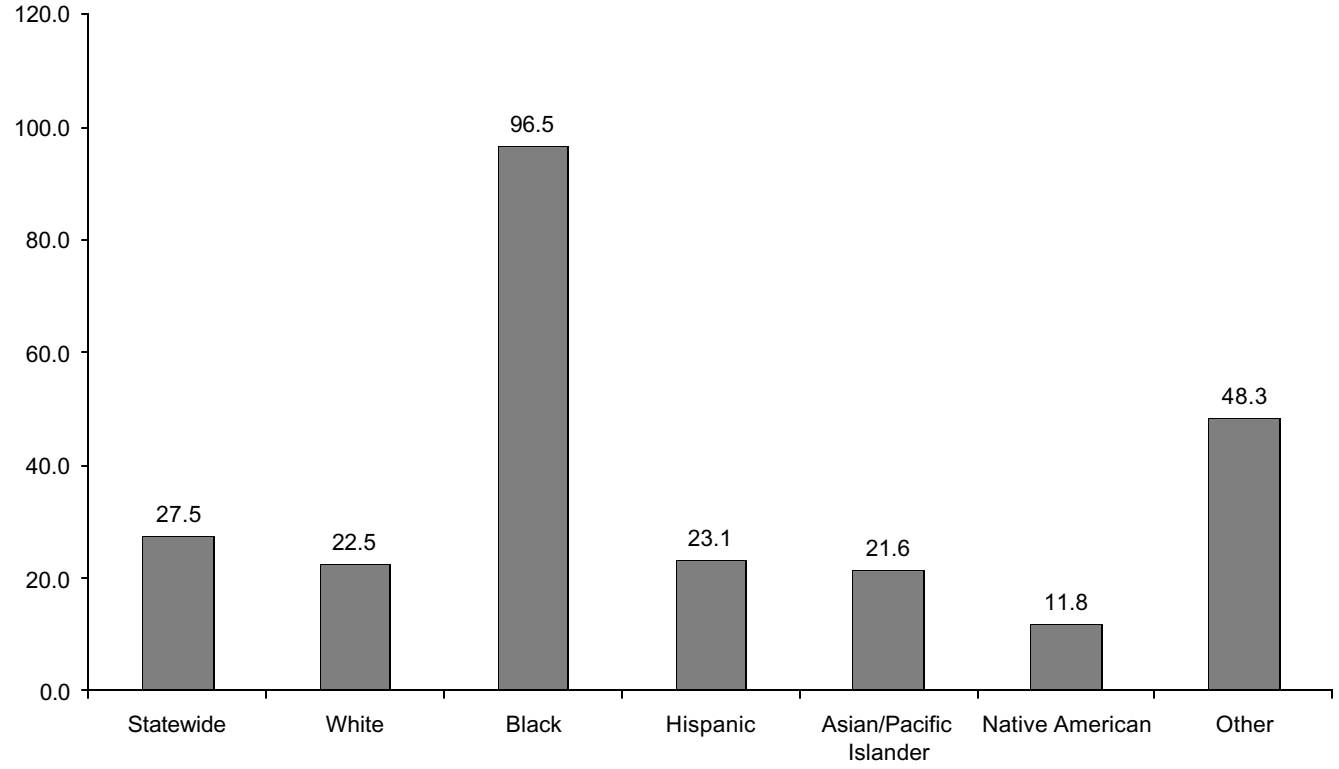
**Definition:**

The numerator consists of patients by race/ethnicity, discharged with a principal diagnosis of CHF, all non-maternal/non-neonatal age 18 years and older, but excludes:

- discharges with cardiac procedures
- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population, age 18 years and older by race/ethnicity.

**Hospital Admission Rate for Hypertension by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

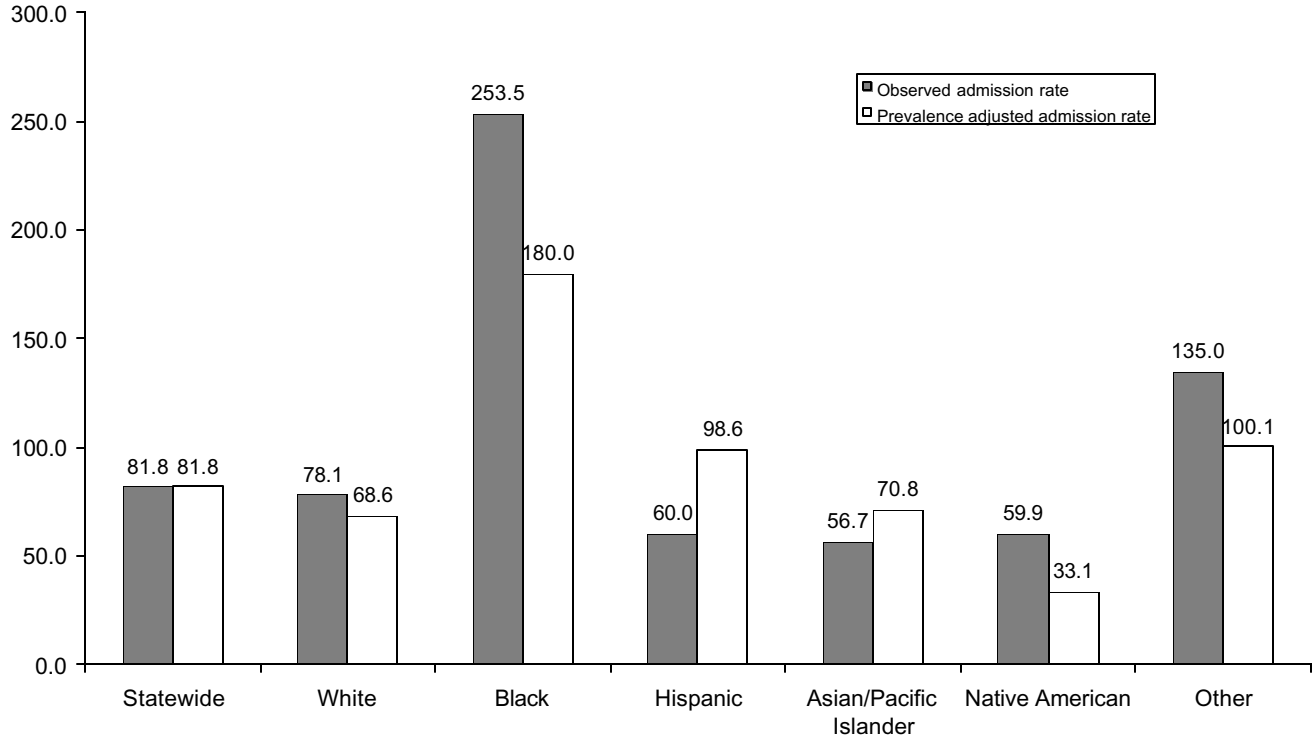
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of hypertension, all non-maternal/non-neonatal age 18 and older, but excludes:

- patients with any cardiac procedure
- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission Rate for Adult Asthma by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for asthma.

---

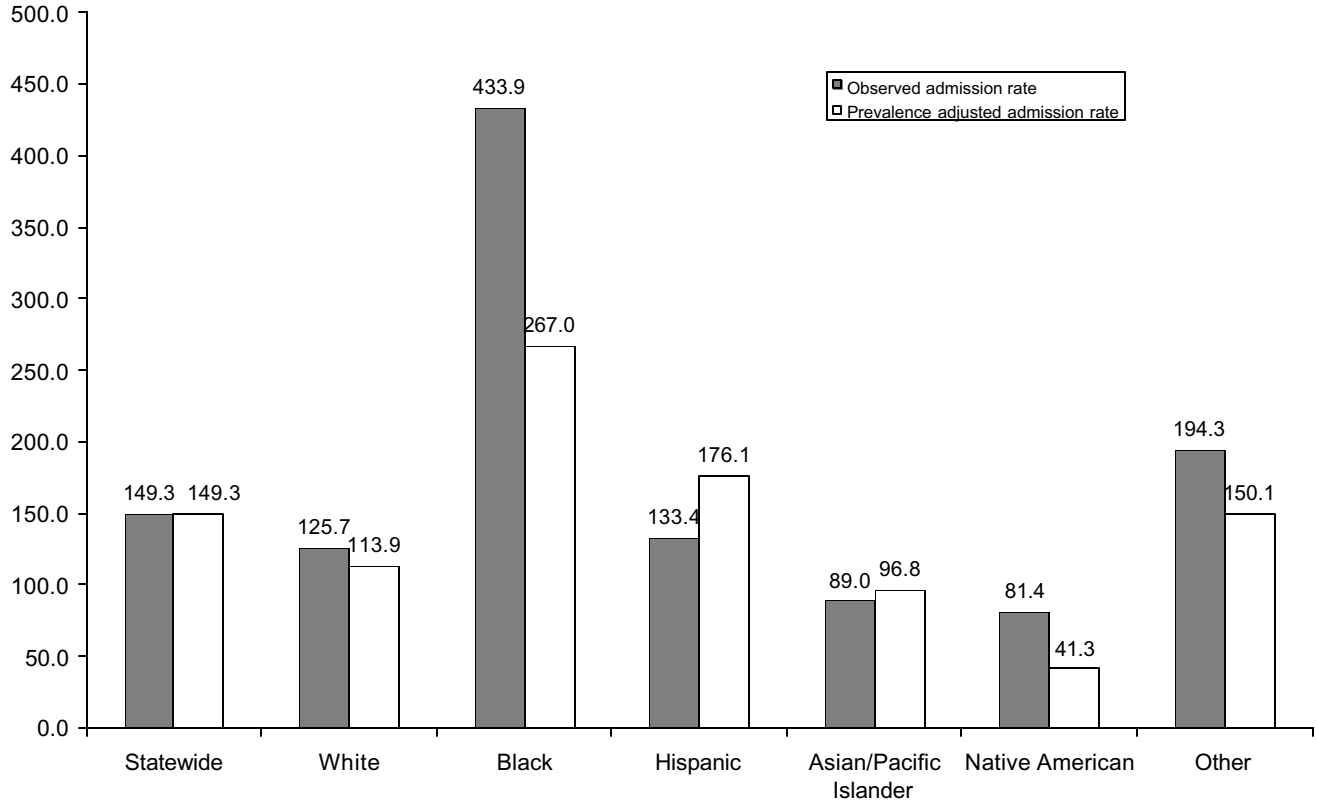
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of asthma, all non-maternal/non-neonatal age 18 and older, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission Rate for Pediatric Asthma by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for asthma.

---

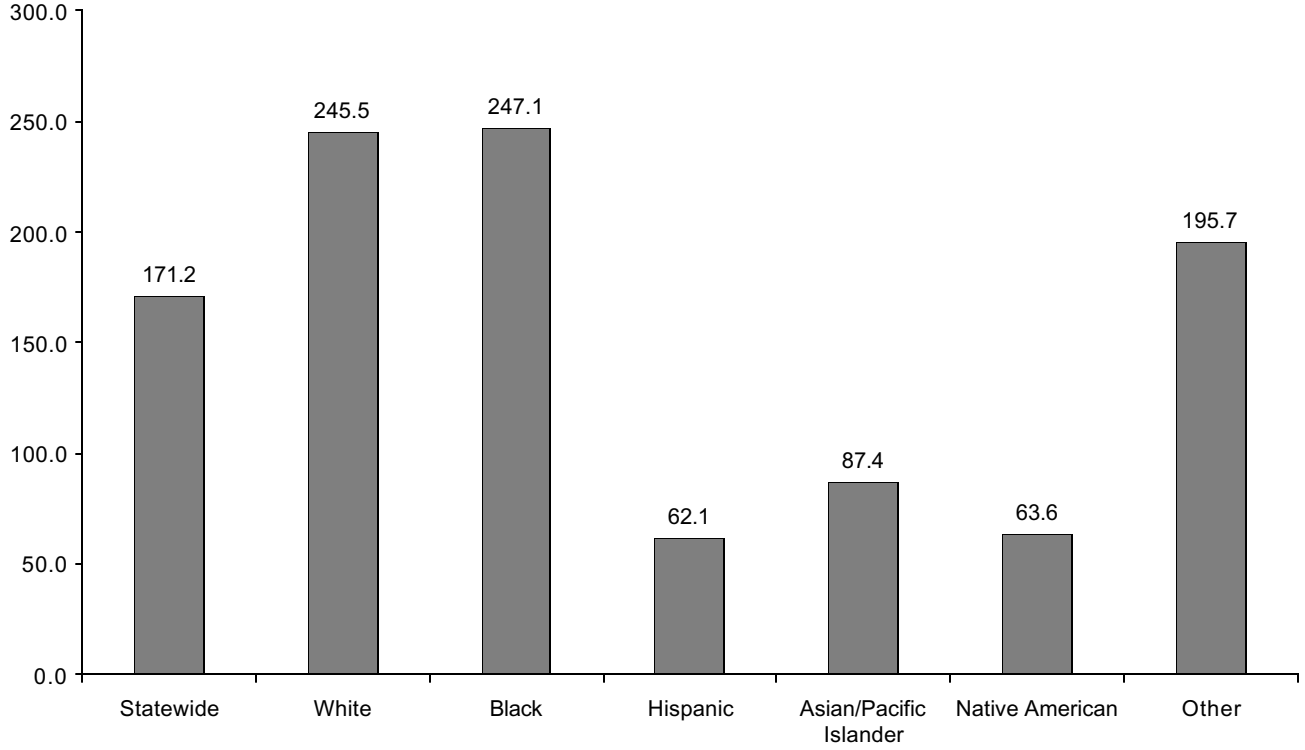
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of asthma, all non-maternal/non-neonatal under age 18, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population under age 18 years by race/ethnicity.

**Hospital Admission Rate for Chronic Obstructive Pulmonary Disease (COPD) by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut.

---

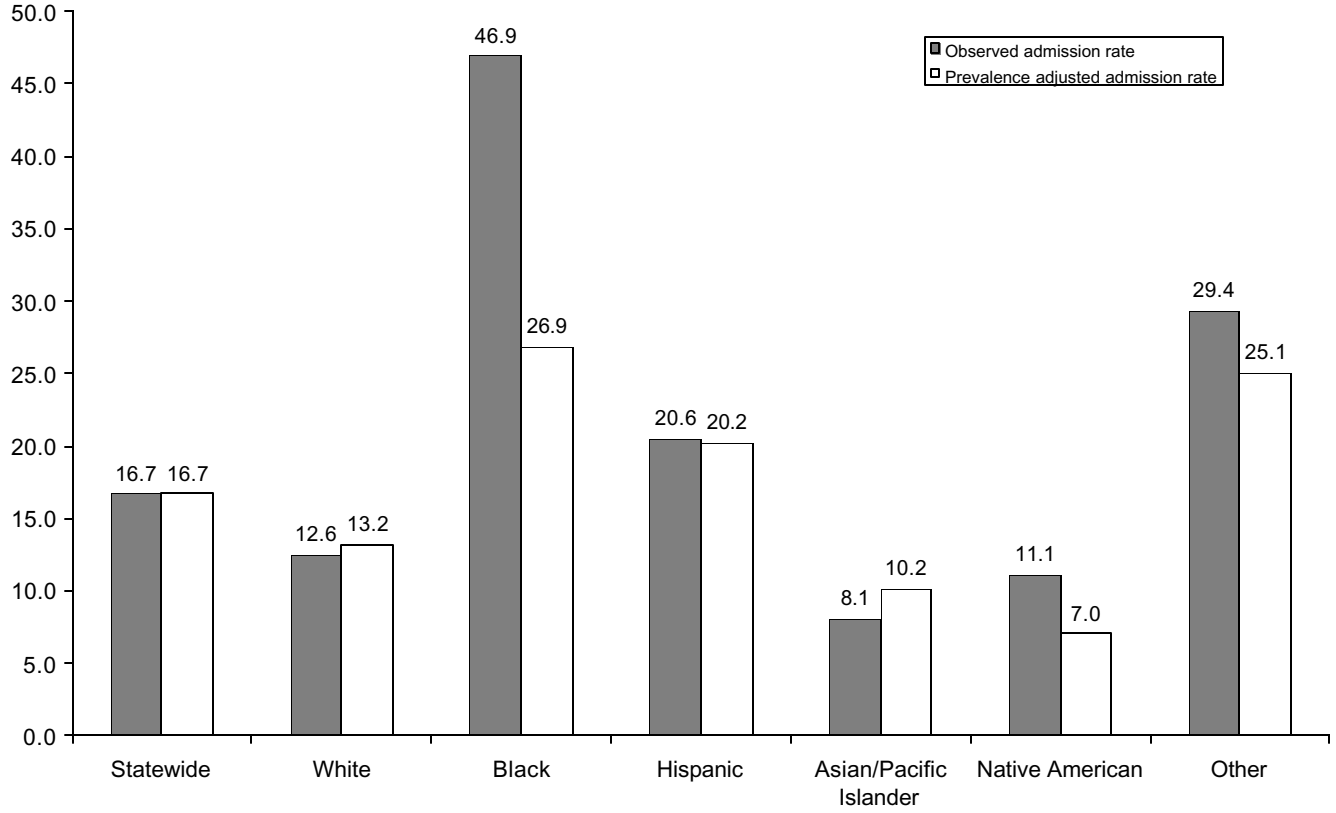
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of COPD, all non-maternal/non-neonatal age 18 and older, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission Rate for Uncontrolled Diabetes by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for diabetes.

---

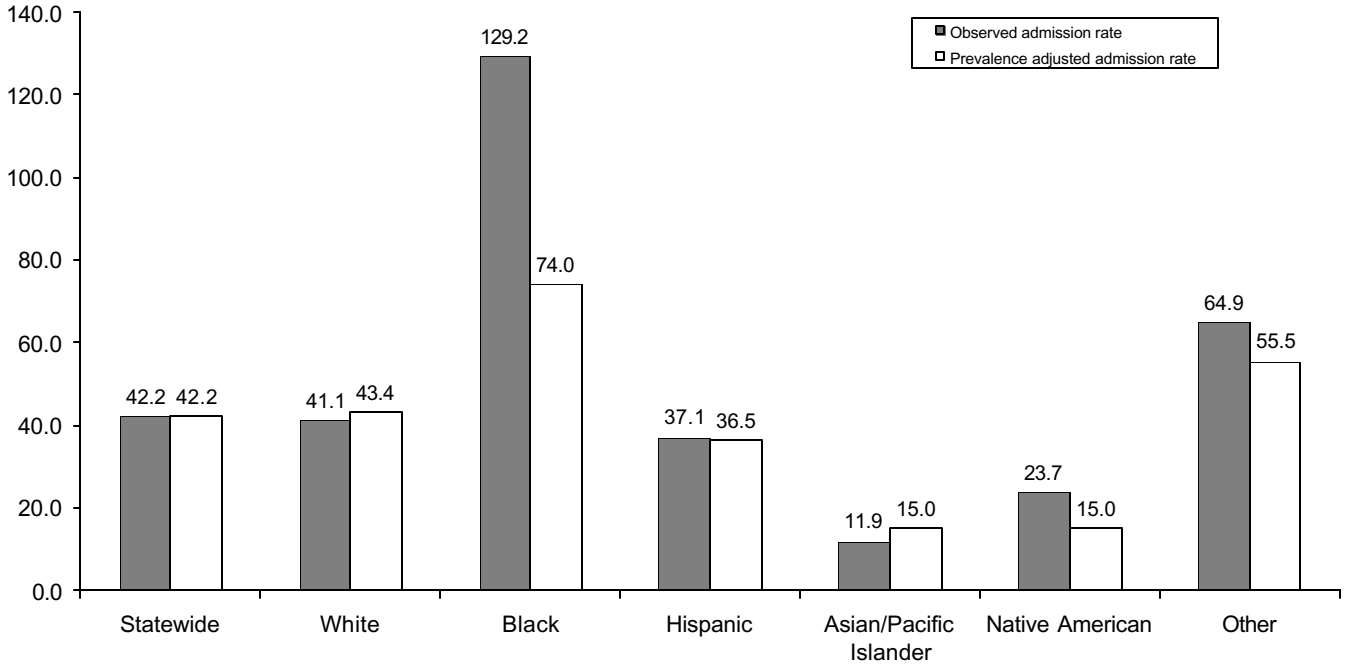
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of uncontrolled diabetes, without mention of a short-term or long-term complication, all non-maternal/non-neonatal age18 and older, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission for Diabetes Short-Term Complications by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for diabetes.

---

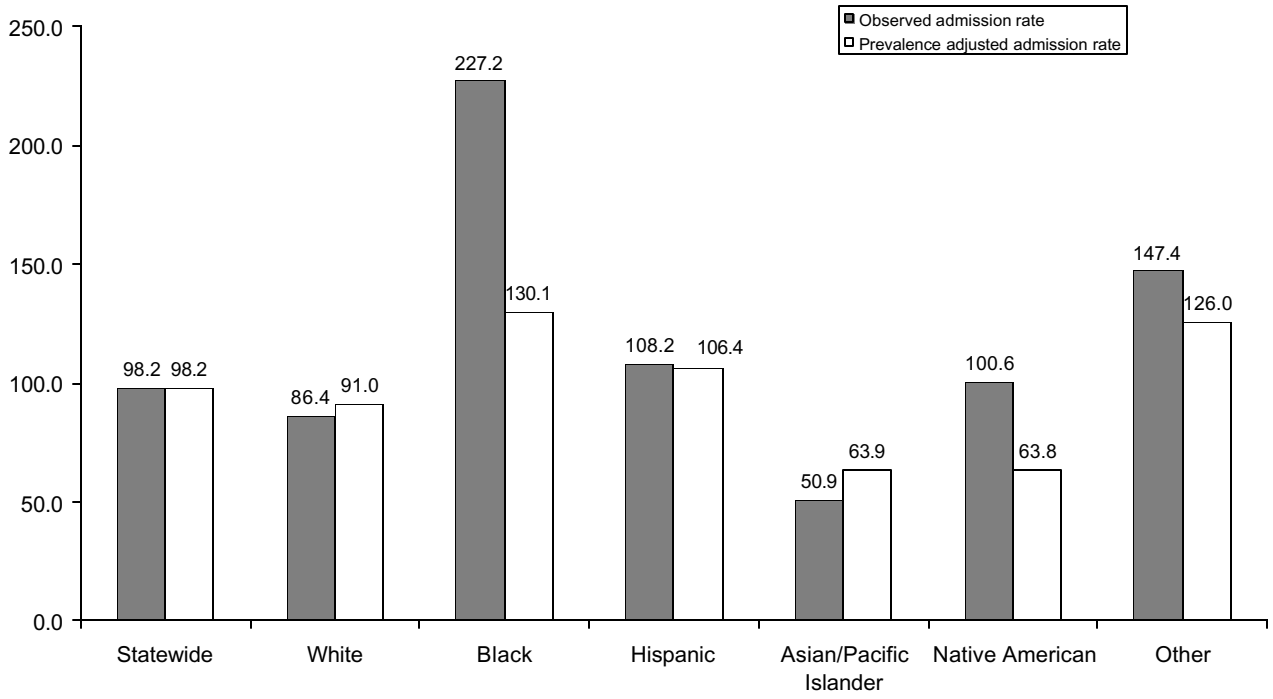
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of short-term complications (ketoacidosis, hyperosmolarity, coma), all non-maternal/non-neonatal age 18 and older, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission Rates for Diabetes Long-Term Complications by Race/Ethnicity in California, 2001 (per 100,000 population)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for diabetes.

---

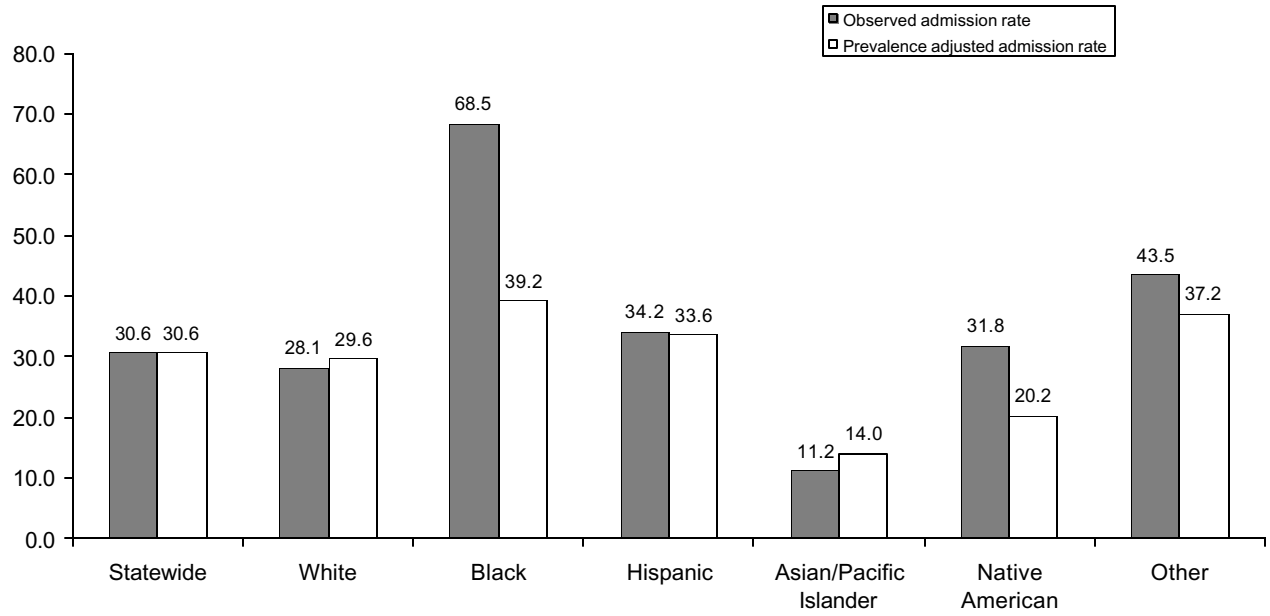
**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of long-term complications (renal, eye, neurological, circulatory, or complications not otherwise specified), all non-maternal/non-neonatal age 18 and older, but excludes:

- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

**Hospital Admission Rate for Lower-Extremity Amputation Among Patients with Diabetes in California, 2001 (per 100,000 population)**




Note: (1) All persons indicating Hispanic ethnicity have been grouped into the "Hispanic" category. The Native American category also includes Eskimo and Aleut. (2) The prevalence adjusted admission rate is an estimated rate if all race/ethnicity groups had the same prevalence rate for diabetes.

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**Definition:**

The numerator consists of number of patients by race/ethnicity, discharged with a principal diagnosis of lower-extremity amputation, all non-maternal/non-neonatal age 18 and older, but excludes:

- patients with trauma
- transfers from other hospitals
- hospitalizations due to pregnancy, childbirth, and puerperium
- newborns or other neonates

The denominator is state residential population age 18 years and older by race/ethnicity.

# SECTION 2: MORTALITY FOLLOWING HOSPITALIZATION

## DESCRIPTION:

This section presents statewide racial/ethnic differences in risk-adjusted 30-day mortality for all heart attack patients and all community-acquired pneumonia (CAP) patients admitted to California hospitals between 1999-2001. Also, for the 71 hospitals that performed Coronary Artery Bypass Graft (CABG) procedures during 2000 and voluntarily submitted clinical data to the Office of Statewide Health Planning and Development (OSHPD), this section describes risk-adjusted in-hospital mortality rates by race/ethnicity.

Mortality within 30 days of admission for heart attack and CAP was measured by linking hospital discharge records with California's vital statistics records. For CABG, in-hospital mortality is the outcome of interest. For all analyses, race and ethnicity were measured using administrative categories routinely reported to the OSHPD by hospitals.

A "risk factor" is a characteristic of a patient or a treatment episode that is known to be associated with mortality. For example, both being male sex and having lung cancer are risk factors associated with a higher chance of dying from community-acquired pneumonia. Under guidance from clinical panels of experts, these and other risk factors were selected on the basis of their importance in the medical literature, as well as their demonstrated predictability using OSHPD data. The risk-adjusted mortality rates reported in this section represent an endeavor to create an equal playing field on which the outcomes of different racial/ethnic categories can be fairly compared. Such comparisons are useful in documenting the existence (or non-existence) of disparities, even though they are of limited value in explaining why they do (or do not) occur (see: Ibrahim, et al, 2003, p. 1620).

## DEFINITIONS:

**Heart attack** or "acute myocardial infarction" (AMI) is a sudden occurrence of inadequate blood supply to the heart, resulting in muscle damage and possible death. Approximately 133,000 heart attack patients were admitted to 400 California hospitals between 1999-2001. More than 17,000 of these patients (13.0%) died within 30 days. The risk factors in "Model B" from OSHPD's 1996-1998 heart attack outcomes report were used to measure 1999-2001 mortality outcomes (OSHPD, Healthcare Quality and Analysis Division, 2002, pp. 35-42).

**Pneumonia** is a serious infection or inflammation of the lungs, caused by various bacteria, viruses, mycoplasmas, and other agents such as fungi or chemicals. It may be classified into four types: **"Community-acquired pneumonia"** may occur in the course of normal daily life; "Hospital-acquired pneumonia" is acquired while hospitalized for an illness or surgical procedure; "Aspiration pneumonia" may occur when foreign matter is inhaled into the lungs; and "Pneumonia caused by opportunistic organisms" strikes people with compromised immune systems (such as persons with AIDS or sickle

cell disease). More than 200,000 adult patients were admitted to 406 California hospitals between 1999-2001 because of community-acquired pneumonia (CAP); approximately one out of eight (12.23 %) died within 30 days. Mortality outcomes were risk-adjusted using a statistical model that included "do not resuscitate order present within 24 hours of admission" as a measure of underlying illness severity in addition to other acute and chronic illnesses (OSHPD, Healthcare Quality and Analysis Division, publication forthcoming, pp. 33-34).

**Coronary Artery Bypass Graft (CABG)** is one of the most frequent and costly procedures regularly performed on Californians with diseased coronary arteries. It is also one of the best-studied invasive cardiac procedures. The in-hospital mortality rate for isolated CABG surgery in California was 2.7 % in 2002. Four states, including California, regularly produce hospital and surgeon-level report cards on CABG. Differences in outcomes for racial/ethnic groupings have generally not been found in the peer-review literature when high-quality clinical measures are used to risk-adjust outcomes. The current California CABG Mortality Reporting Program (CCMRP) only uses a collapsed racial grouping of 'Non-White' and 'White' in reporting the risk-model results. This analysis presents risk-adjusted outcomes with a fuller set of racial/ethnicity categories. Approximately 22,000 patients from 71 hospitals participating in the voluntary CCMRP are represented. The risk model used is similar to that published in the most recent CCMRP report (Damberg, et al, 2003), though it includes some new risk factors such as cardiogenic shock and body mass index.

## LIMITATIONS:

The hospital administrative data used in this section (heart attack, CAP) do not measure all of the clinical risk factors that might increase the risk of death. For example, such potentially important clinical risk factors such as "body temperature" or "serum sodium" are unmeasured for CAP.

The measure of racial/ethnicity categories does not differentiate important subgroups (for example, the "Asian and Pacific Islander" category does not differentiate Pakistanis, Samoans, Koreans, Filipinos, Chinese, Japanese, Asian Indians, etc; and the "Hispanic" category does not differentiate Mexicans, Cubans, Puerto Ricans, Salvadorans, etc.)

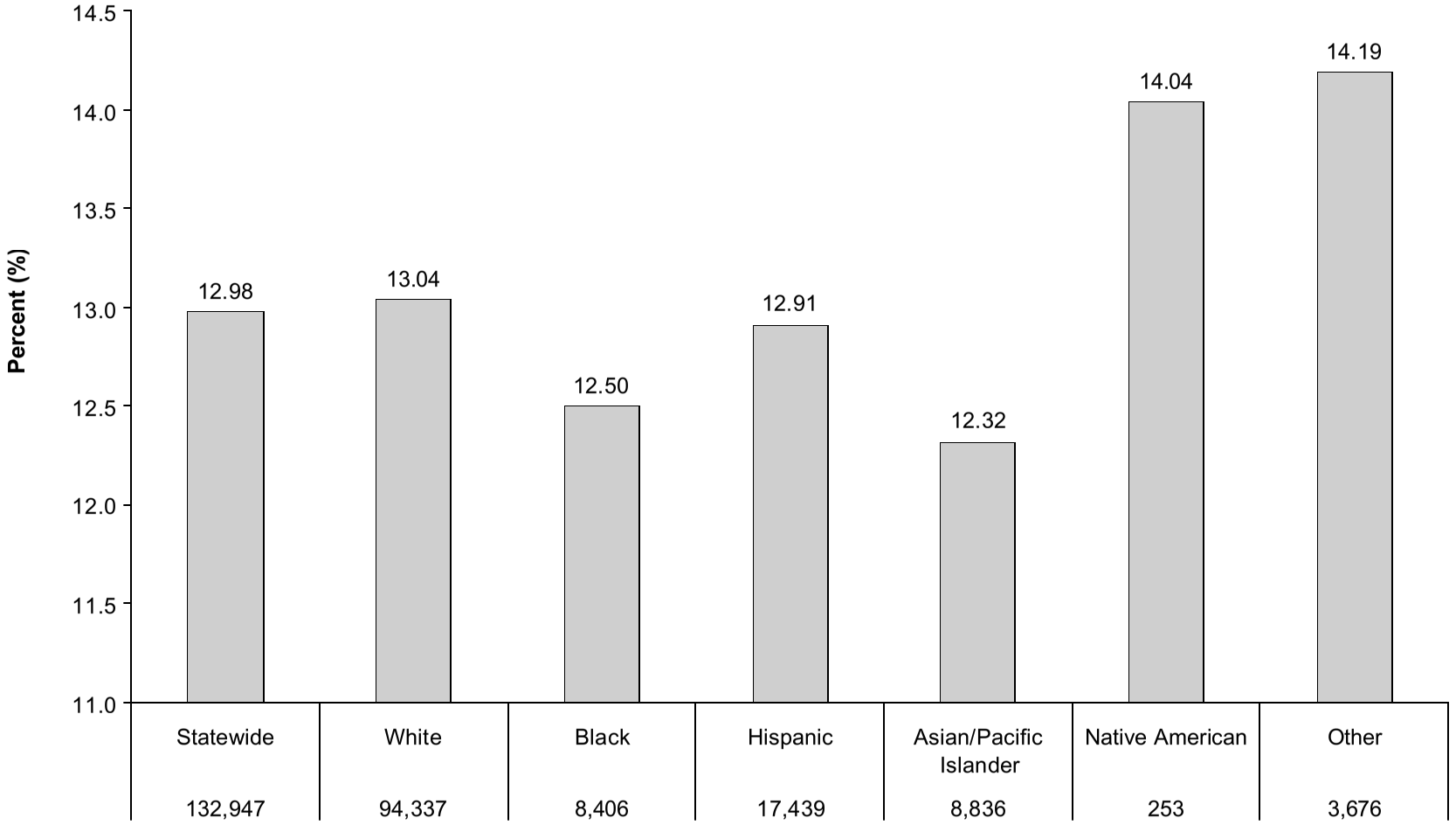
The statewide validity and reliability of the race/ethnicity data used in this chapter is not known. There also may be inconsistencies among hospitals in their definitions of race and ethnicity.

## SOURCES:

California Office of Statewide Health Planning and Development. Heart attack, and CAP: Patient Discharge Data, 1999-2001.

Damberg, C.L., Danielsen, B., Parker, J.P., Castles, A.G., & Steimle, A.E. *The California Report on Coronary Artery Bypass Graft Surgery – 2000 Hospital Data* (preliminary analytical file).

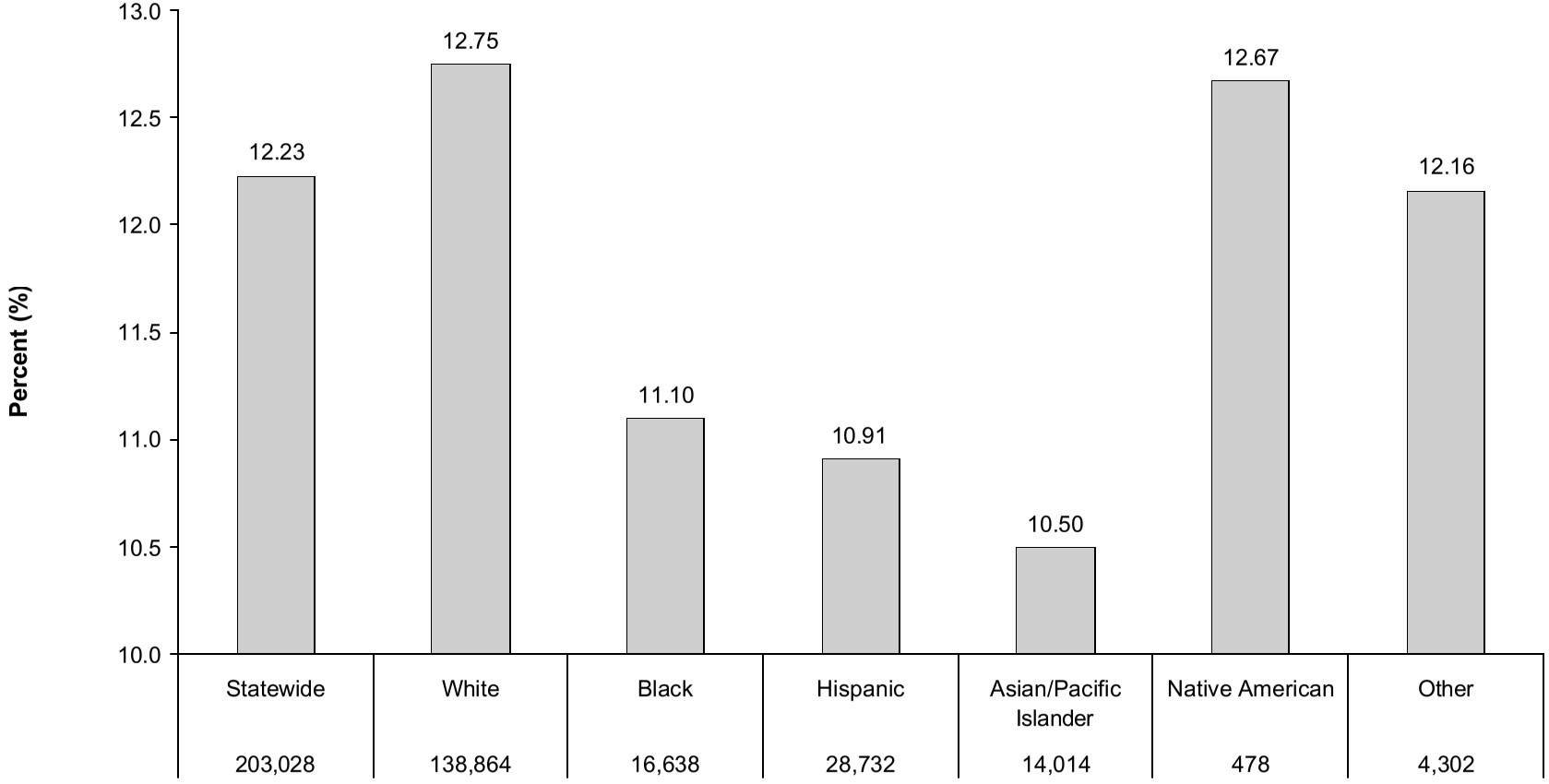
## 30-Day Risk-Adjusted Mortality for Heart Attack by Race/Ethnicity (1999-2001)




Notes: 1) Risk adjusted by age, sex and clinical severity. 2) The Native American category also includes Eskimo and Aleut.
3) All persons indicated as Hispanic have been grouped into the Hispanic category.

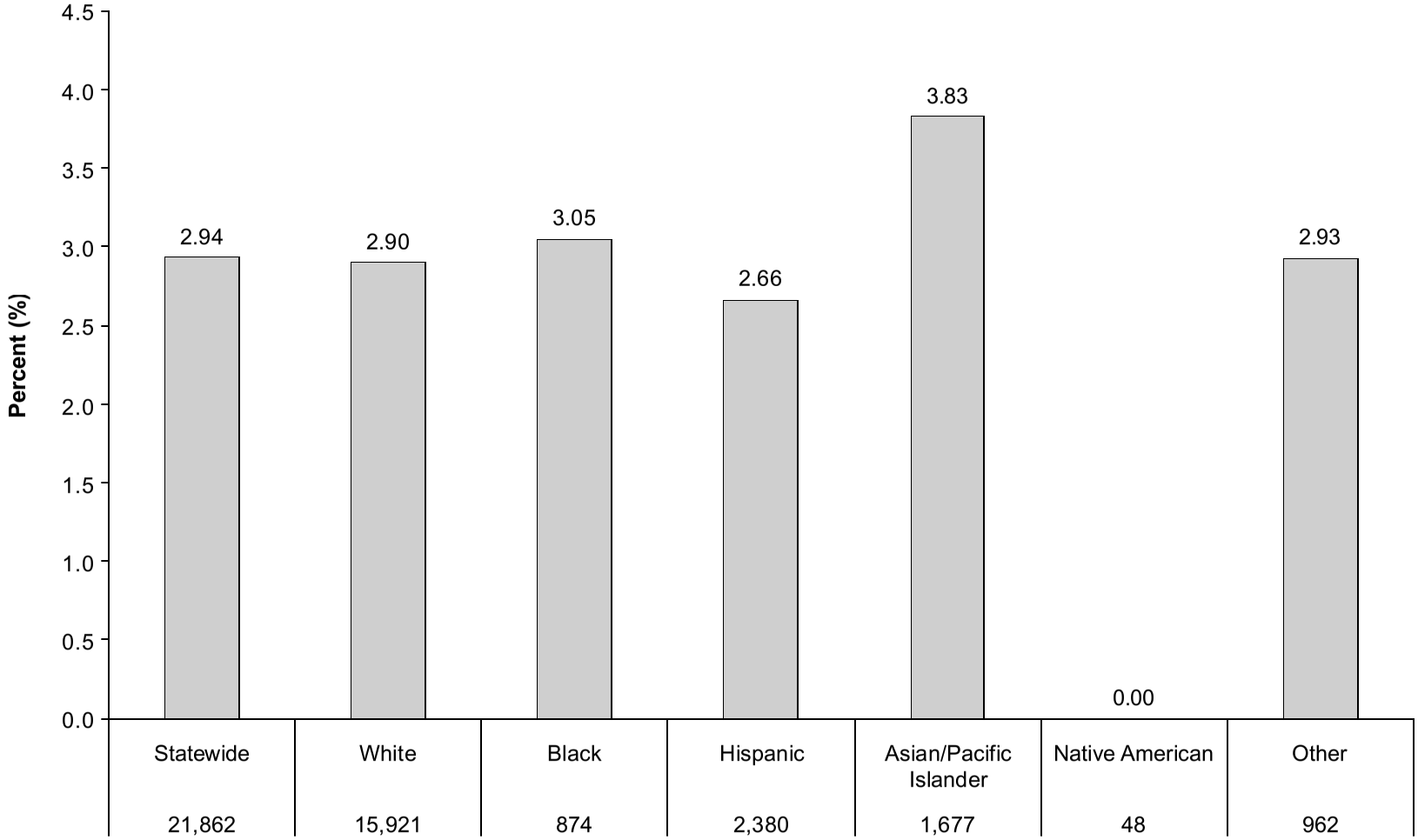
Source: Office of Statewide Health Planning & Development - 1999-2001 Patient Discharge Data

## 30-Day Risk-Adjusted Mortality for Community-acquired Pneumonia by Race/Ethnicity (1999-2001)




Notes: 1) Risk adjusted by age, sex and clinical severity. 2) The Native American category also includes Eskimo and Aleut.
3) All persons indicated as Hispanic have been grouped into the Hispanic category.
Source: Office of Statewide Health Planning & Development - 1999-2001 Patient Discharge Data

## Inpatient Risk-Adjusted Mortality for Coronary Artery Bypass Graft Surgery (2000)




Notes: 1) Risk adjusted by age, sex and clinical severity. 2) The Native American category also includes Eskimo and Aleut.
3) All persons indicated as Hispanic have been grouped into the Hispanic category. 4) The Native American category experienced no mortality.

Source: CABG: CCMRP - 2000 Participating Hospital Data

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# SECTION 3: USE OF INVASIVE CARDIOVASCULAR PROCEDURES

## DESCRIPTION:

Ischemic heart disease is the leading cause of death among Americans. Early detection of ischemic heart disease is critical in managing the quality of care and extending life. Diagnostic and corrective procedures are available for most heart conditions, but reducing death due to heart disease remains a significant public health challenge.

A body of medical literature has identified differences in the rates of use of invasive cardiac procedures across racial groups. A recent summary of the literature (Kressin & Petersen, 2001) supports the finding that disparities exist, but acknowledges that the cause of such disparities remains unclear. Potential explanations for differences offered by researchers include patient preferences, racial/genetic differences in indications for procedures, access to care, and provider bias. A few of the published studies (Carlisle et al., 1997; Giacomini, 1996) that have found differences used OSHPD Patient Discharge Data (PDD) from earlier years.

This analysis compares the utilization of diagnostic catheterization and cardiac revascularization procedures across different racial/ethnic categories of patients admitted to a hospital with serious heart conditions—either heart attack (acute myocardial infarction) or unstable angina. Two sets of analyses are presented. The first provides invasive cardiovascular procedure rates for all patients admitted with heart attack or unstable angina. The second includes only patients who had a diagnostic cardiac catheterization performed during the same admission. For the second set of analyses, results are presented separately for Medicare patients (expected source of payment, PDD) and for patients admitted via the Emergency Department (source of admission, PDD). These sub-analyses help us to rule out ability to pay or the severity of illness as possible explanations for discrepancies.

## DEFINITIONS:

The study sample consists of all adult patients (>= 18 years of age) admitted with a primary diagnosis code indicating either acute myocardial infarction (ICD-9 codes 410.x) or unstable angina (ICD-9 codes 411.1x or 411.8x ) who were discharged from an acute care hospital in calendar year 2001. The level of analysis is the hospital discharge and some patients had multiple admissions during the period.

Only procedures performed during the same patient admission are included. Diagnostic catheterization is defined by ICD-9-CM codes 37.21, 37.22, 37.23, 37.26, 88.5x. Coronary Artery Bypass Graft (CABG) is defined by ICD-9 code 36.1x and Percutaneous Coronary Intervention (PCI) by ICD-9 codes 36.01, 36.02, 36.05, 36.06, 36.09.

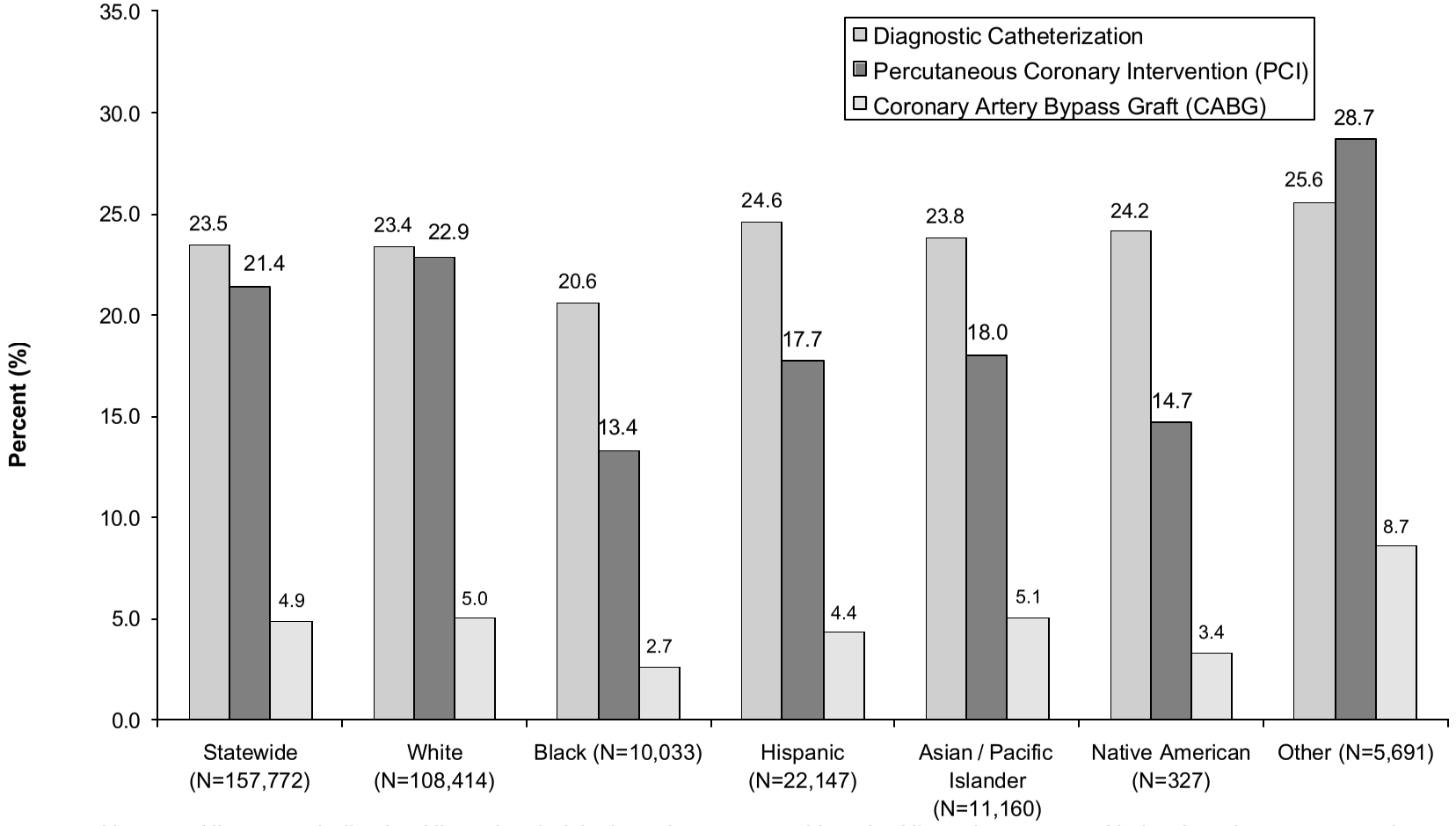
**LIMITATIONS:**

The ICD-9 code groupings used in this study may not identify patients eligible for cardiac procedures with as much reliability as would definitions based on clinical data. In addition, administrative data sources such as PDD do not provide the necessary clinical data elements to rule out differences in severity of illness as potential explanations for differences in utilization rates. More refined, risk-adjusted analyses, such as presented in Chapter 2, may be required to adequately address whether differences in disease severity across racial/ethnic groupings can explain differences in utilization rates.

**SOURCES:**

California Office of Statewide Health Planning and Development, Patient Discharge Data (PDD), 2001.

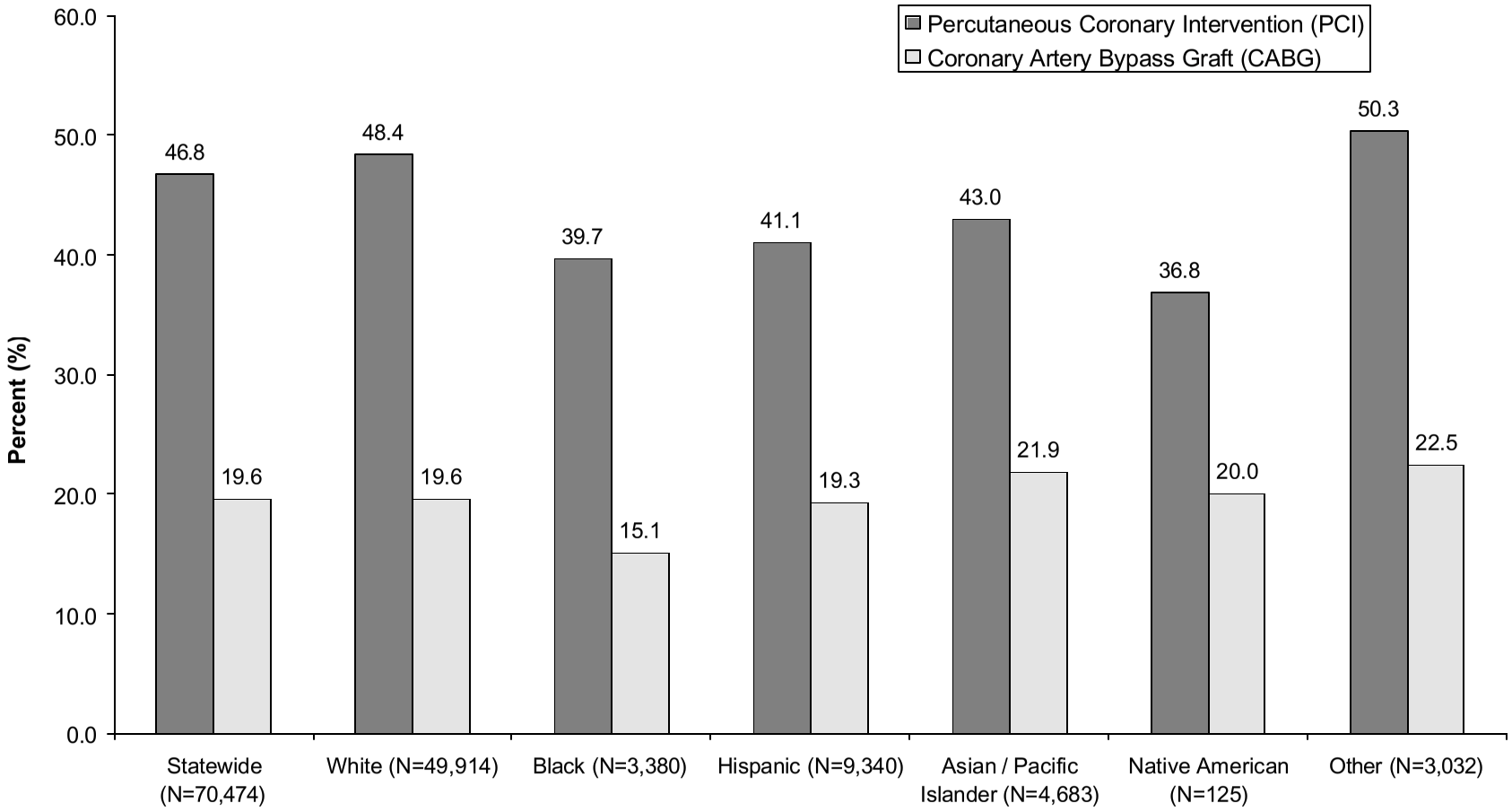
## Rates by Race/Ethnicity, for Patients Admitted with Heart Attack or Unstable Angina (2001) (N=157,772)




Note: All persons indicating Hispanic ethnicity have been grouped into the Hispanic category. Native American category also includes Eskimo and Aleut.

Source: Office of Statewide Health Planning & Development - 2001 Patient Discharge Data

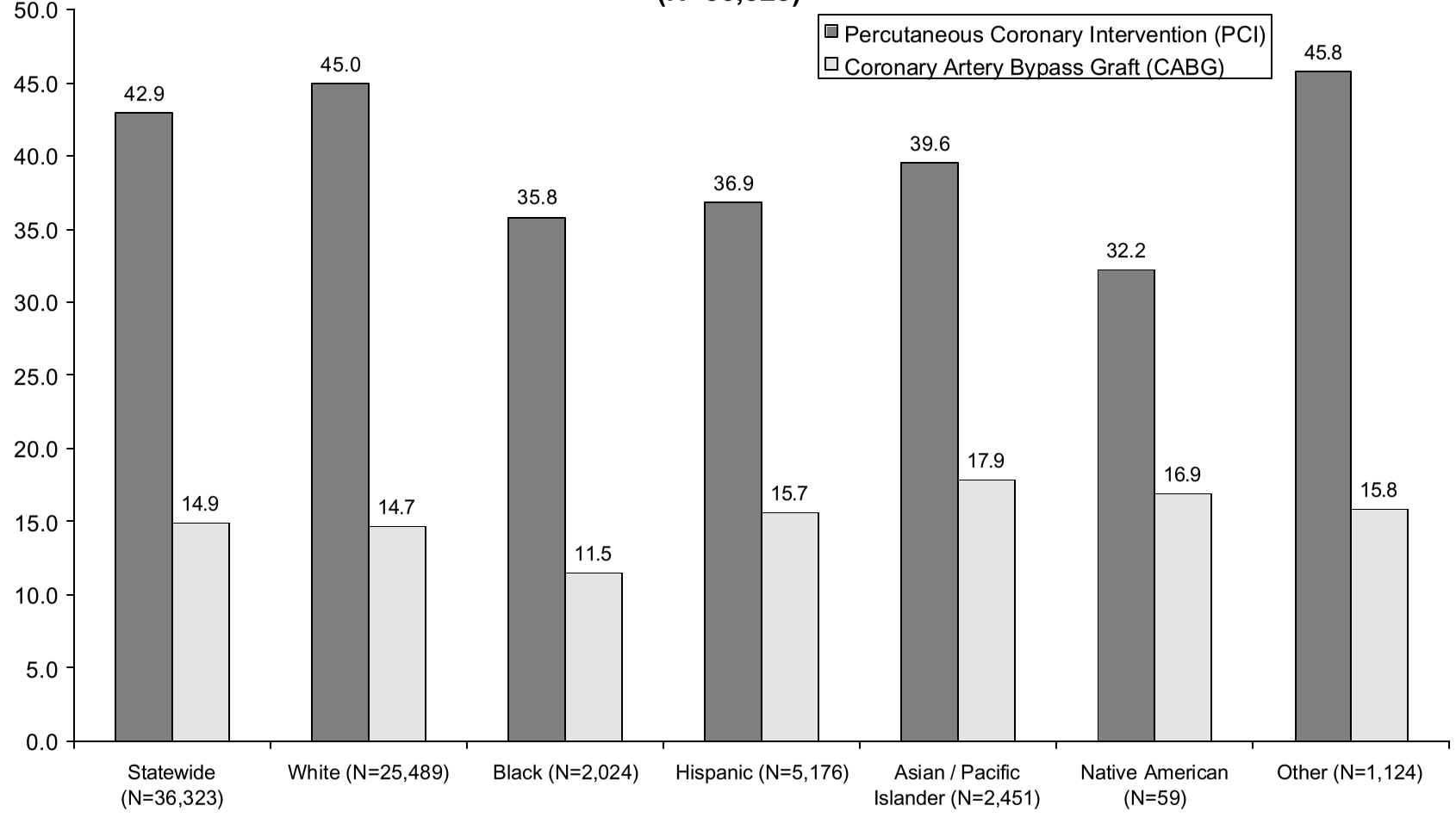
## Rates by Race/Ethnicity for Patients Admitted with Heart Attack or Unstable Angina who had Diagnostic Catheterization (2001) (N=70,474)




Note: All persons indicating Hispanic ethnicity have been grouped into the Hispanic category. Native American category also includes Eskimo and Aleut.

Source: Office of Statewide Health Planning & Development - 2001 Patient Discharge Data

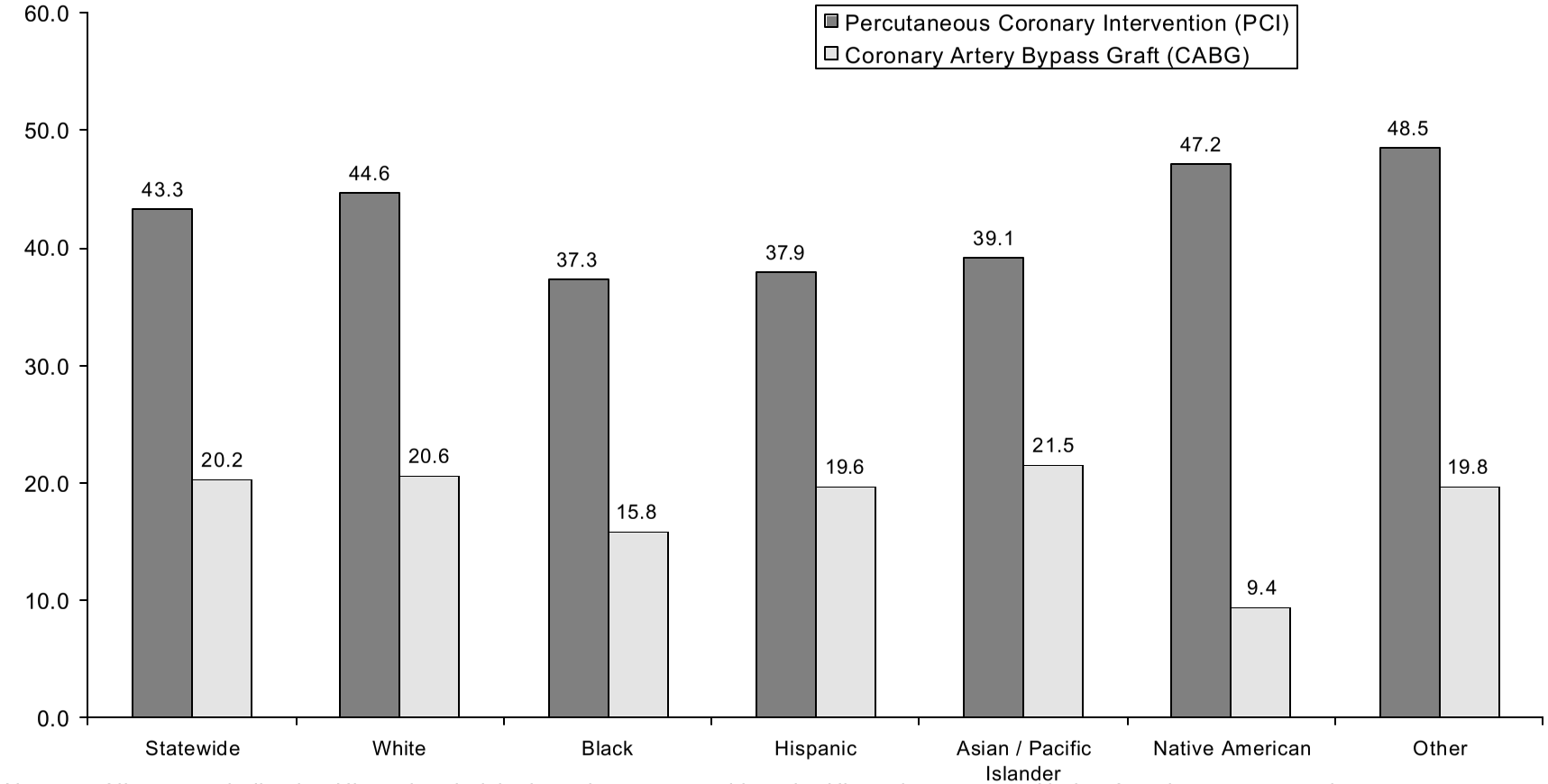
## Rates by Race/Ethnicity for Patients Admited to Emergency Departments with Heart Attack or Unstable Angina who had Diagnostic Catheterization (2001) (N=36,323)




Note: All persons indicating Hispanic ethnicity have been grouped into the Hispanic category. Native American category also includes Eskimo and Aleut.

Source: Office of Statewide Health Planning & Development - 2001 Patient Discharge Data

## Rates by Race/Ethnicity for Medicare Patients Admitted with Heart Attack or Unstable Angina who had Diagnostic Catheterization (2001) (N=35,519)




Note: All persons indicating Hispanic ethnicity have been grouped into the Hispanic category. Native American category also includes Eskimo and Aleut.

Source: Office of Statewide Health Planning & Development - 2001 Patient Discharge Data

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